



**International
Finance Corporation**
World Bank Group



IFC's Approach to Financing Renewable Energy in MENA

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Presentation to the MENAREC 5 Conference
Marrakech, Morocco

May 16, 2012

IFC is a Member of the World Bank Group

IBRD

International Bank
for Reconstruction
and Development

Est. 1945

IDA

International
Development
Association

Est. 1960

IFC

International Finance
Corporation

Est. 1956

MIGA

Multilateral
Investment and
Guarantee Agency

Est. 1988

Role:

To promote institutional,
legal and regulatory
reform

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reform

To promote private
sector development

To reduce political
investment risk

Clients:

Governments of member
countries with per capita
income between \$1,025
and \$6,055.

Governments of poorest
countries with per capita
income of less than
\$1,025

Private companies in 179
member countries

Foreign investors in
member countries

Products:

Technical assistance
Loans
Policy Advice

Technical assistance
Interest Free Loans
Policy Advice

Equity/Quasi-Equity
Long-term Loans
Risk Management
Advisory Services

Political Risk Insurance



Shared Mission: To Promote Economic Development and Reduce Poverty



Three Businesses Lines Supporting Renewable Energy Projects

IFC Investment Services

Power sector specialists (financiers, engineers, lawyers, E&S specialists, economists...) to structure financing that meet clients' needs:

❑ DEBT

- ✓ Long Maturities Tailored to Project Needs
- ✓ Fixed/Floating Rates, Local Currencies
- ✓ Flexible Amortization Profile
- ✓ Syndication/Mobilization

❑ SUB-DEBT

- ✓ Terms tailored to meet project needs

❑ EQUITY

- ✓ Up to 20% in project or company
- ✓ On selective basis, start-up equity/co-developer under Joint Development Agreement

IFC Advisory Services

❑ Access to finance

- ✓ Support financial institutions to develop sustainable finance

❑ Sustainable Business

- ✓ Engage the private sector to improve resource efficiency, utilize renewable energy.

❑ Investment Climate

- ✓ Assist governments in removing regulatory barriers for energy efficiency and renewable energy

❑ Public-Private Partnerships

- ✓ Help governments structure PPPs, including renewables IPPs

IFC Asset Management Company

❑ Wholly owned subsidiary of IFC

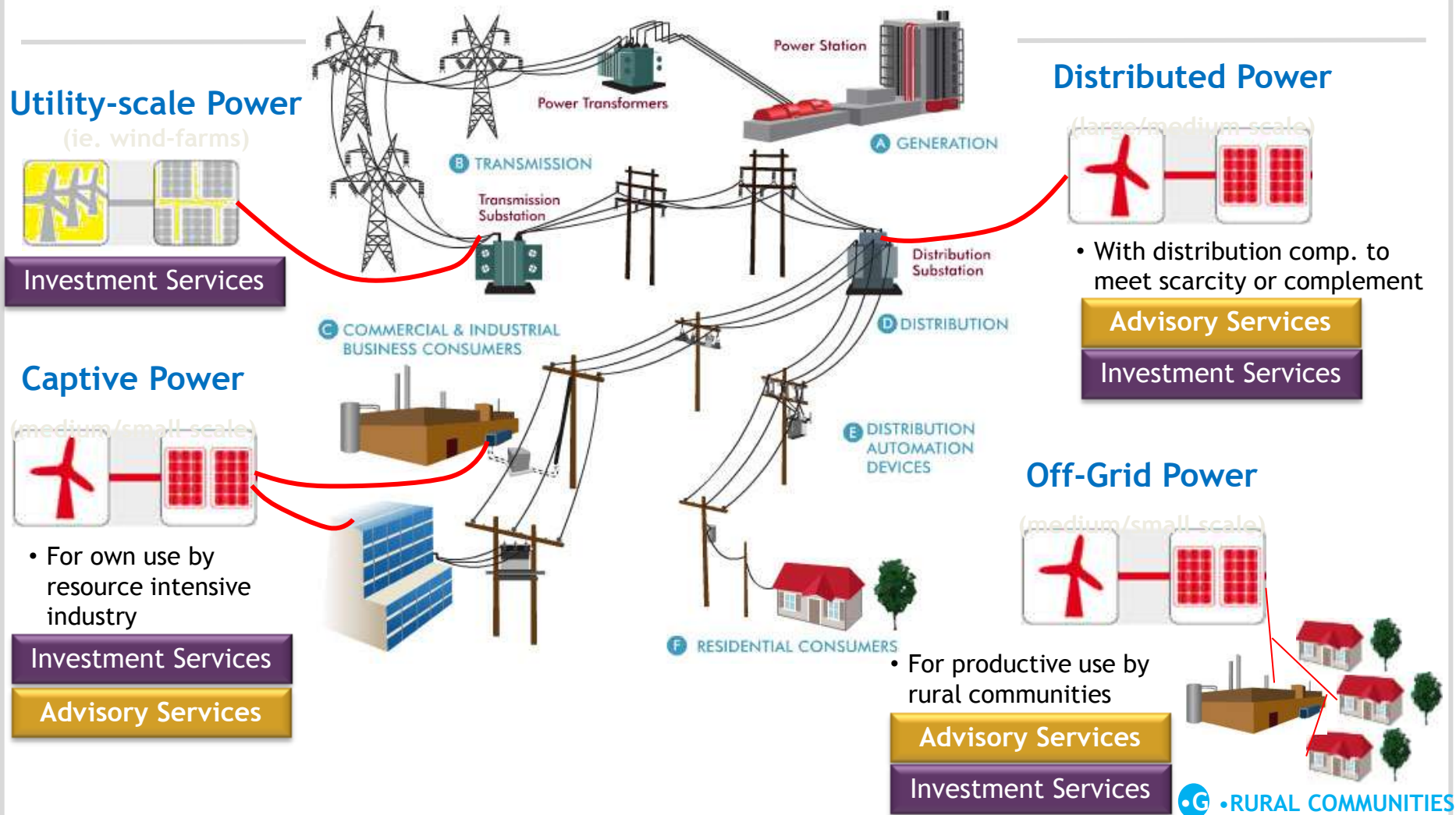
❑ Private equity fund manager

❑ Invests third-party capital alongside IFC

Climate Business Group

Drives scale through strategy & metrics, innovation, mobilization, integration of investment and advisory, including blending concessional funding with commercial capital

IFC MENA RENEWABLE ENERGY FOCUS AREAS

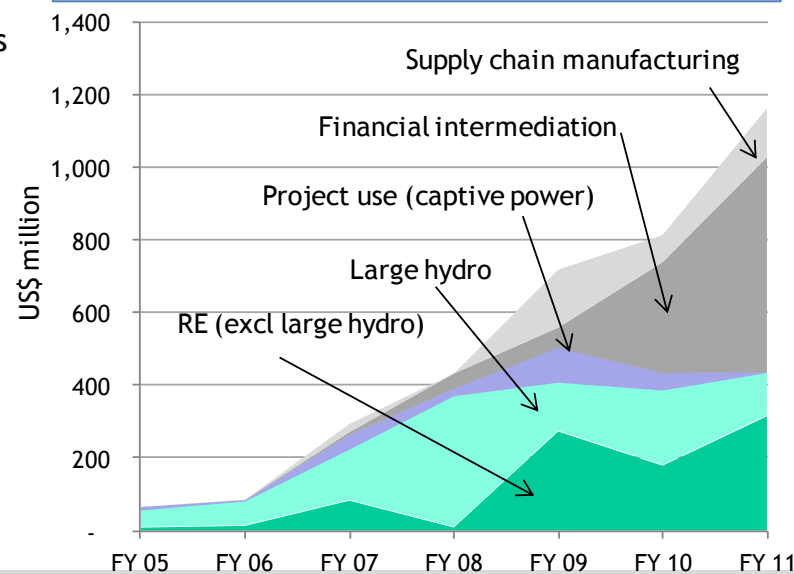


IFC is a Leading Investor in Emerging Markets Power

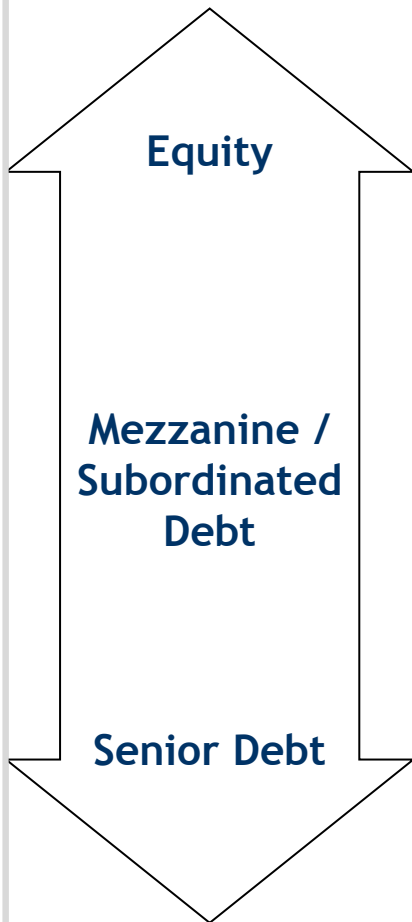
- **200+ power investments in 57 countries**, commitments of ca. **US\$8 billion** since 1967
 - Key focus on climate change: IFC investment in renewable energy increased from US\$65 million in FY2005 to **US\$1.2 billion in FY2011** (70% of our power business)
- We target **first-in-kind projects** in **markets under reform**
- We typically invest in utility-scale projects/companies
 - **Generation** - Financed 26,000+ MW across technologies
 - **Transmission** - Selected investments in transmission assets
 - **Distribution** - Current power portfolio of ~160 million customers
- Half our business is with **global clients**:
 - We continue to work with our **long-term partners**
 - Recent trend is partnering with **renewable energy companies expanding into emerging markets**
- We increasingly support **local clients**:
 - Local power companies investing in their own country
 - Local industrials expanding into the power sector
 - Our local clients are becoming a larger share of our business as market reform increases opportunities for private investment in the power sector

Significant renewable energy experience across all commercially viable sectors:

- ✓ 3,500 MW+ in hydro
- ✓ 1,200 MW+ in wind
- ✓ 1,300 MW+ in geothermal
- ✓ 275 MW+ in biomass
- ✓ Multiple small investments in solar PV
- ✓ CSP appraisals underway



IFC invests Equity, Senior Debt, Everything in Between



- Corporate
- JV (early equity investments, Infraventures)
- Typically up to 20% shareholding
- Long-term investor, typically 6-8 year holding period

- Any number of structures/flavors of subordination
- Subordinated loans, income participating loans, convertible loans

- Senior Debt (corporate finance, project finance)
- Fixed/floating rates, USD, EUR and local currencies available in some countries
- Long maturities: 8-20 years, appropriate grace periods
- Range of security packages suited to project/country
- Mobilization of funds from other lenders and investors (e.g. parallel lenders, “B” loans/Syndication)

Concessional Finance for Climate Friendly Projects at IFC

IFC's Blended Finance Unit manages and invests concessional donor funds to catalyze climate friendly projects

What is concessional finance?

- **Loans and guarantees** at terms that are more favorable than prevailing market terms

What's the objective of concessional finance?

- IFC uses concessional finance to **address market barriers** (e.g. perceived and/or real risks, early-entrant costs), to **catalyze investments** that would not otherwise happen to promote **market transformation** towards sustainable markets

How is concessionality structured?

- Concessionality is generally provided through **Pricing, Tenor, Seniority/Subordination or Security (or a combination of these)** in the form of debt and guarantee products. Flexible to meet project needs

Principles of concessional finance

- “*Minimum concessionality*” sized/priced to “fill the gap” but not over-subsidize (benchmarked against what market pricing can bear) to minimize market distortion and avoid displacing commercial financing
- “*Leads to Sustainability*”: Should not be applied where long-term subsidies are required; subsidies should be limited to demonstration/decline over time
- “*Additionality beyond IFC*”: Should be projects that both the client and IFC couldn't do without concessional support.
- “*Independent oversight*”: Governance structure which manages inherent conflicts of interest in funding structuring and decision making

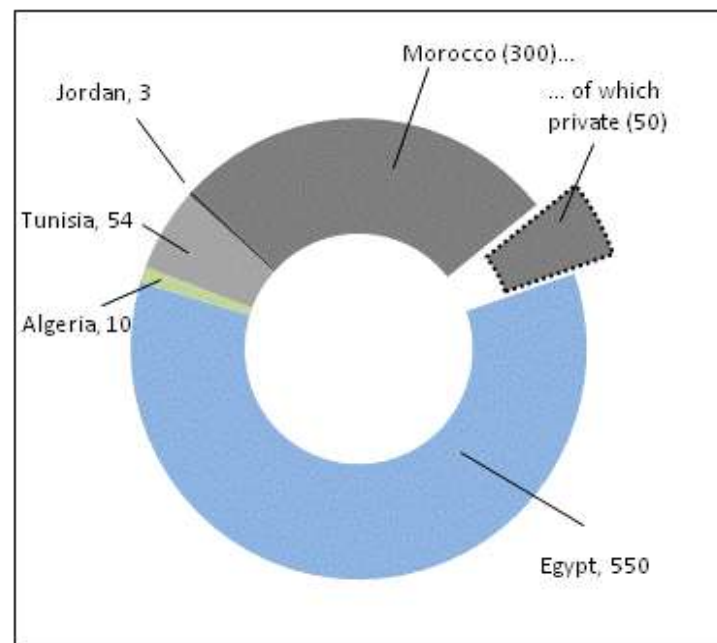
Specific Requirements

- Must be deployed alongside IFC financing
- Must track GHG and other development indicators
- Must meet donor eligibility requirements

Limited Track Record of Private Investment in MENA renewables production to date

- Renewable energy represents today a limited share of the totaled installed power production capacity in MENA
 - Wind power is less than 0.5% of total capacity in MENA
 - Solar power is still confidential: 15 MW PV and 100 MW CSP (being commissioned) in the UAE, ISCC plants in Morocco, Egypt and Algeria, some rooftop PV in Kuwait...
 - Due to natural constraints, hydro plays a significant role in a limited number of countries and has reached its limits
 - Concentrated in a few countries (e.g. Until Shams 1 (UAE), large power projects in GCC were limited to conventional thermal plants)
- Most of renewable projects in MENA were publicly procured, resulting in limited private investment in the sector to date

Current installed MENA WPP capacity (total= 917 MW)



New Opportunities for Private sector to increase MENA's renewable energy capacity

- **Emergence of policies favoring renewable energy** driven by:
 - Need to diversify generating sources and where possible, deploy indigenous power rather than using foreign exchange to import fuel
 - Affordability of new forms of renewable energy which have reached grid parity (e.g. until recently, hydro was the only “affordable” renewable source in Morocco - Wind has now reached grid parity)
 - Unique positioning / Great potential for wind and solar, resulting in higher efficiencies
 - Willingness to develop local renewable expertise
 - Ambition to export “clean” energy
 - Climate change and environmental concerns given diminishing resources or reserves of coal, gas and even water
- **Solar, wind and other forms of renewable energy offer great opportunities for private investors in MENA...**
 - Morocco, Jordan, Egypt, Tunisia, Saudi Arabia... all have ambitious programs and targets
 - Several successful wind IPPs leveraging experience of standard IPPs
 - Innovative legal and institutional frameworks favoring development of renewable projects (e.g. Law 13.09 and MASEN law in Morocco; Law 2009-7 in Tunisia, REEE Law in Jordan...)
- **... if capital can be raised and risks overcome**
 - Need to diversify sources of financing as international capital markets face crisis while local banks may lack liquidity or reach limit in terms of sector exposure... but don't forget “replicability”
 - Transparent competitive procurement is a must
 - Key risks must be properly addressed

Key Conditions for Successful Renewable Energy Financing

- **Competitiveness** of power generation project / **Sustainability** (important to avoid risk of eventual PPA renegotiation/distribution losses)
 - Affordability of the tariff in the long term
 - Clear regulatory / contractual framework providing for adequate mechanism of tariff adjustment and/or strong LT PPA from creditworthy utility/client
- **Technical viability**
 - Resource measurement (e.g. at least one year's worth of wind/solar data)
 - Land and permitting
 - Proven technology, satisfactory construction (e.g. turnkey construction contract, sufficient contingency costs planned, phasing of construction) and O&M strategies
 - Grid capacity (especially with regards to intermittent supply risk of some RE) and access to the grid
- **Committed and experienced investor/operator/developer**
 - Sufficient equity at risk / share retention
 - Transparent procurement
- **Environmental and social analysis:** Even Renewable projects can have negative impacts
 - e.g. land acquisition, noise, birds (wind), competition for water (CSP)...



Thank you!

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Annex



Pioneer Investments - Renewables

- First merchant/quasi-merchant hydros in India (Allain Duhangan), Chile (La Higuera, and Hidromaule)
- First grid tied solar PV installation in India (Cleantech)
- Series of early stage equity solar investments in India and Thailand ([--])
- First wind farm project financings in Mexico (Eurus and La Mata-La Ventosa), Bulgaria (AES Kavarna), Romania (Cernavoda)
- First wind farm project financings, also merchant: Chile (Norvind), Turkey (Zorlu)
- Landmark geothermal project financings in Nicaragua (San Jacinto) and Guatemala (Orzunil)
- Participation in IPO of partially privatized vertically integrated geothermal company, with subsequent corporate loans in the Philippines (PNOC-EDC).

IFC's Long Standing Experience in Hydro

- IFC has financed key private sector hydro projects in Chile, Guatemala, Nepal, India, Philippines, Uganda, Turkey and Pakistan, among others
- IFC has made over 40 hydro investments totaling more than 4,500 MW of capacity



- IFC supports hydro projects by:
 - Providing **long maturities** to match asset life
 - Taking on **full or partial merchant risk**
 - Assisting with managing **E&S issues**
 - Taking **construction risk**
 - Creating **innovative bundling** for small hydros

IFC is a Leading Investor in Emerging Markets Wind

- IFC has made **15 wind investments** in more than 1,200 MW of capacity
- Key transactions in Chile, Mexico, Bulgaria, Turkey, Romania, China, Sri Lanka, and India
- Experience with **both equity and debt** financing
- Can mobilize **donor financing** where appropriate



- IFC leverages its **strong expertise to appraise/support wind projects**
 - Relationships with top technical consultants
 - Experience with a **wide range of turbine manufacturers/models**
 - **Innovative structuring to optimize leverage**, e.x. flexible subordinated tranches that can “absorb” wind variability
 - **Understanding of regulatory support mechanisms**

IFC Wind Investments

Project	MW Installed	Country	Sponsor	Committed (\$m)	Year
Cernavoda	138	Romania	EDP	61	2011
Techno Wind	127	India	Simran Wind	35	2011
Pestera	90	Romania	EDP	39	2011
La Mata/La Ventosa	68	Mexico	EDF	29	2011
Senok Wind	20	Sri Lanka	Senok	4	2011
Eurus	250	Mexico	Acciona	71	2010
Gansu Guazhou Xiehe	201	China	China Wind Power	55	2010
AES-Kavarna	156	Bulgaria	AES	52	2009
Rotor Elektrik	135	Turkey	Zorlu	72	2009
Norvind	50	Chile	SN Power	31	2009
MSPL	37	India	MSPL	33	2007
Rio Do Fogo	49	Brazil	Iberdrola	6	2006
Basic Energy	8	Dominican Republic	CEPM	23	2005
Total	1,330			509	

IFC Investment in Solar Generation

- IFC has made **9 solar generation investments** in Thailand, Philippines, India and China
- Projects in **new markets/regulatory regimes**
- Experience with **both equity and debt** financing
- Can mobilize **donor financing** where appropriate



- IFC invests in technology and scale to reduce cost of solar energy:
 - Financing **utility-scale solar plants** in emerging markets
 - Investing in best-in-class **start up developers**
 - Developing **relationships with suppliers**
 - **Following emerging solar technologies** to be ready for first opportunity
 - Investing in solar power development **private equity funds**

SunEdison LLC: Karadzhalovo SPP, Bulgaria



- 60.4 MW solar photovoltaic (PV) Power Plant
- Located in Parvomay, Plovdiv District
- 100% owned by SunEdison LLC, a leading global developer, EPC contractor and operator of solar power systems
- Construction commenced in October 2011; physically completed in Feb 2012 and Feed-in tariff locked-in in Mar 2012.



•IFC's Role

- IFC played a key role in structuring the transaction & led the B-loan and parallel lenders (OPIC & Unicredit) to commit project debt financing within a short timeframe (4 months post-mandate).
- EUR 120 million long-term debt package, including EUR 46.1 million in an IFC A Loan and EUR 41.1 million in an IFC B Loan. External financing also included a EUR 30 million equivalent VAT facility
- 16.25 year tenor (inc. 9 month grace period)
- Debt financing was committed in early March 2012; fully disbursed in end-March 2012

•Transaction Highlights

- Amongst the largest solar PV plants in Europe at completion
- First major solar power plant to be financed in Bulgaria under the new regulatory regime introduced in May 2011;
- Plant physically completed in a short span of just 5 months; and
- IFC's B loan cover helped mobilize UniCredit senior loan of EUR 41.1 million.

IFC Solar Investments

Project	MW Installed	Country	Sponsor	Committed (\$m)	Year
SPC NakhonPanom1	6	Thailand	Solar Power Company	1	2011
SPC Sakonnakhon1	6	Thailand	Solar Power Company	1	2011
NDPL Solar	6	India	Tata Power	1	2011
SunBorne Solar	-	India	SunBorne Energy	6	2011
Applied Solar	25	India	Applied Solar Technologies	15	2010
Azure	12	India	Azure Power	10	2010
SPC Korat 1	6	Thailand	Solar Power Company	2	2010
Xinao Solar	-	China	ENN Solar Energy	60	2009
Cagayan (Donor Funds)	1	Philippines	Cepalco	15	2005
Shivgagai (Donor Funds)	5	India	Moser Baer	-	-
Total	62			110	

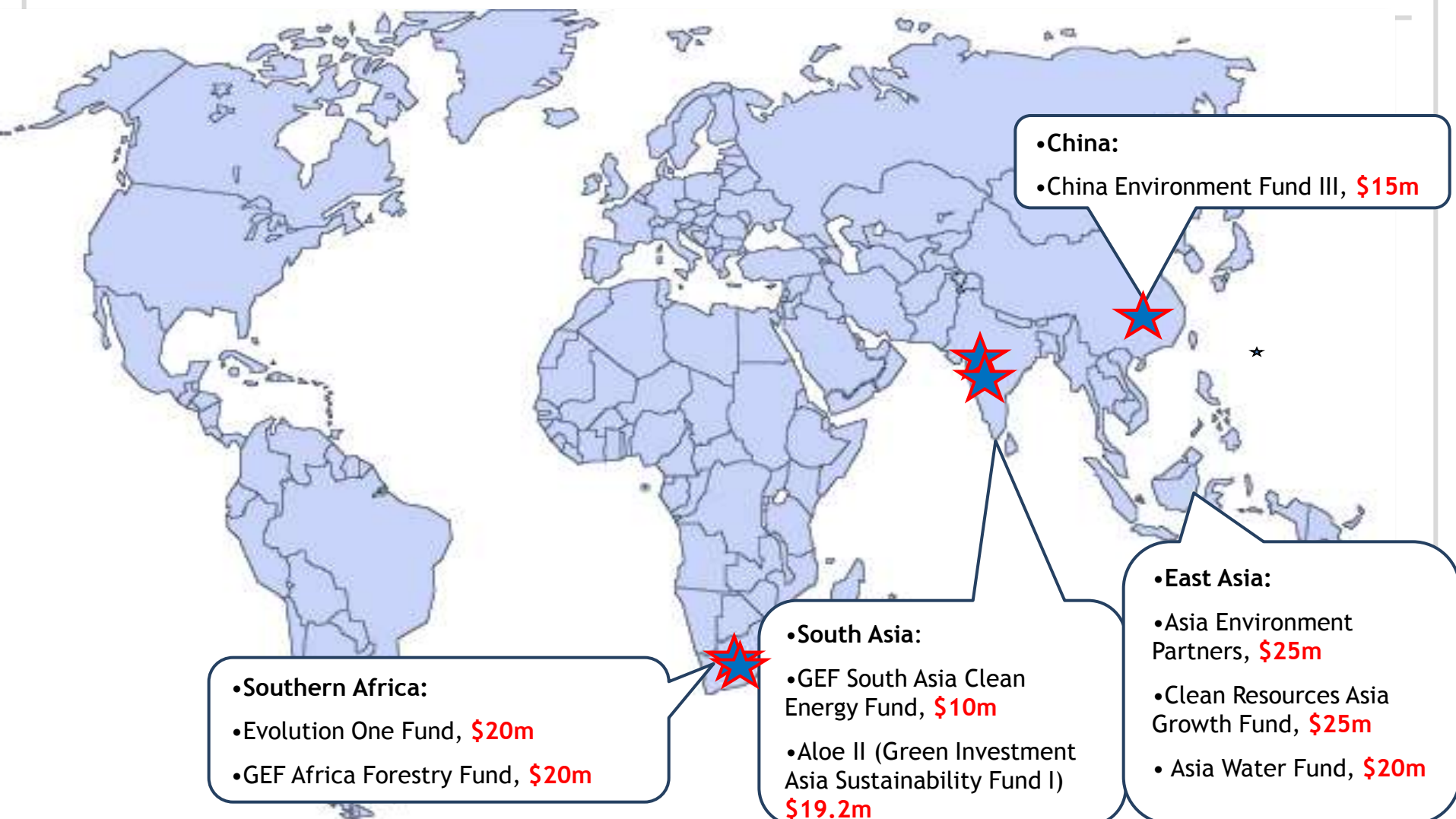
IFC Invests in Geothermal Companies and Projects

- IFC has made geothermal investments in Guatemala, Nicaragua, and Philippines
- Experience with **corporate finance**, as well as **project finance** of both integrated (steam+plant) and plant-only projects
- Experience with **both equity and debt** financing



- IFC supports this difficult but promising sector through:
 - **Innovative structuring** allowing for stage disbursement to full resource completion
 - **In-house technical expertise** allowing for greater comfort with resource-related issues
 - **Understanding of sector-specific challenges** related to resource risk and long project cycle

IFC has invested >\$300 million in 12 Clean Energy/Cleantech/Climate Change Private Equity Funds



Significant experience in carbon markets*

